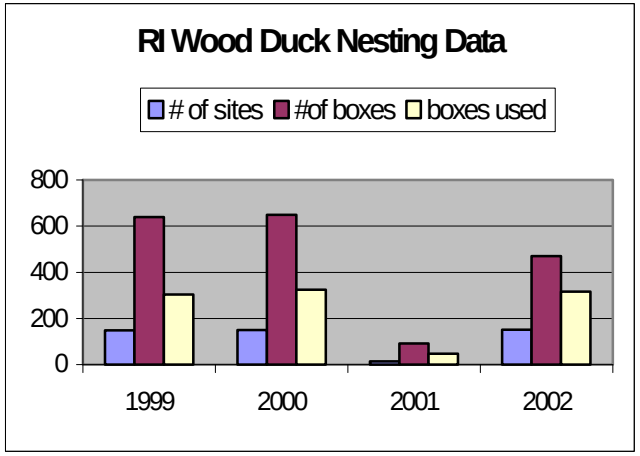
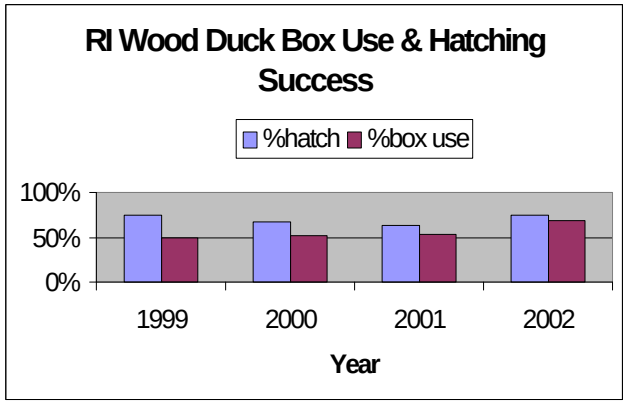
Box installation is just step one of the Wood Duck Nest Box Program. Every year, usually during the winter these boxes need to be checked, cleaned, and repaired before the next nesting period. At the same time a determination is made if a wood duck or some other species used the box. Looking for eggshell fragments and membranes, which may be present, does this.

Other critters may also use these boxes and note is also made of this information but the wood duck is our primary user of interest. Each year DEM Fish and Wildlife checks for nesting success (how many eggs hatched) and predator disturbances (such as claw marks or a wider entrance that has been gnawed). If successful the surrounding area is also recorded for its habitat characteristics, types of trees, the types of brush on the water,



and the amount of open water present.

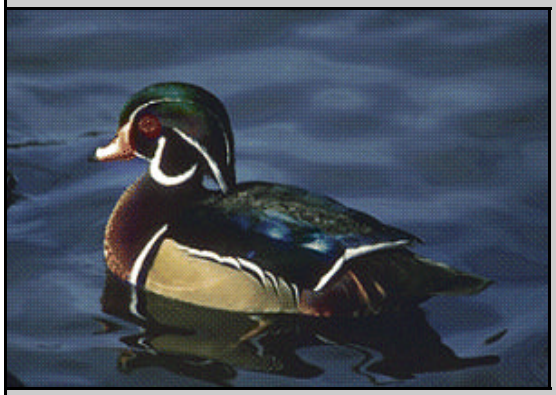
These characteristics are all very important in finding the perfect locations to install duck boxes to ensure wood duck nesting success. This information helps provide management tools for increasing the valuable habitat available for the ducks' continued success.



As indicated by the graph above, the more wood duck boxes available in good habitat the greater potential for population increases. The success rate of eggs hatched is determined by the percent of hatched eggs compared to the percent of total number of eggs laid. The annual population is not only effected by the number of boxes but also by the success rate of eggs hatched. Hatching success can be affected by many factors including weather conditions and disease By eliminating boxes that are in a poor location or a poor habitat, the success rate of the population will also increase.

The DEM, Division of Fish and Wildlife is interested in installing additional boxes in the proper habitat throughout the state. If you have an area which might be appropriate and/or you are interested in installing or monitoring a wood duck box, call the Division of Fish and Wildlife at (401) 789-0281.The future of the wood duck in Rhode Island depends on the interest and concern of all of citizens for the welfare of this beautiful waterfowl.

Wood Duck in Rhode Island



Life History and Management Information Pamphlet

Male Wood Duck photo courtesy of Aquatic Environments org.

Life History

Since the early 1920's, the population of wood ducks (*Aix sponsa)* in North America has gone from near extinction to the most common breeding waterfowl in the northeast. The wood duck is possibly North America's most elaborate herald of spring. An adult wood duck is 18 to 20 inches long and weighs about 1.5 pounds. The male (drake) has iridescent colors of blue, purple, and green and possesses a slick head crest and a white chin strap, all of which make for a distinct appearance. The female ducks (hens) are white, brown, and gray in color with a white circle around the eyes. All wood ducks have large red eyes during the breeding season, which fades after breeding. The vocalization of these ducks consists of whistles and squeals, but most often heard is a "weent-weent" sound as they fly across the marsh.

Female wood duck photo courtesy of USGS (Patuxent Wildlife Research Center)

The wood duck is a very secretive bird, making them very difficult to observe except in the springtime when they are searching for suitable nesting sites. Wood ducks inhabit wooded ponds, swamps, marshes, and creeks where food is available. They feed on aquatic insects, spiders, and vegetation, as well as various nuts and tubers. Woodies are cavity nesters, living in hollowed out trees made by woodpeckers, but they will utilize artificial nest boxes if tree hollows are scarce. Before their return migration in the spring (late March-April), mating pairs are often formed on the wintering grounds after a courtship. The drake follows the hen on the search flight for the perfect nesting place. The females usually return to the area they were born for future nesting. The process of searching for the perfect tree hollow or nest box can take days.

Once the female has selected the location she will begin to lay her eggs. Average clutch size is 12 eggs, with a range of 8 to 15 eggs possible.

Inside an artificial wood duck box, photo courtesy of USDA Forest Service, Pacific Southwest Region

One egg is produced per day until the clutch (total eggs laid) is complete. Soon after all the eggs are laid, the female begins to incubate them. Approximately one month later, the eggs will hatch. The young ducklings are ready to leave the nest cavity or box after 1 or 2 days. Once the hen has called her young from the nest, they begin the most precarious part of their lives. They begin learning to forage for food and trying to avoid predators. At this point it is apparent how important the initial nesting site selection is to their survival. However, even the young ducklings of the most concealed nesting sites can be taken by such prey as snapping turtles, hawks, mink, otter, and other animals. Due to the high predatory rate, only about 3 or 4 ducklings from each brood will reach the flight stage.

Rhode Island Wood Duck Management

In the early 1900's, the wood duck faced extinction due to natural and man made causes which include habitat destruction and excessive hunting. The United States and Canada signed a treaty in 1918 to regulate the hunting of migratory birds. Wood duck hunting was then prohibited and nest box programs were set up by many state conservation departments to increase the dwindling populations. Loss of habitat is the biggest threat to wood duck populations and in Rhode Island, development is the most serious problem.

During the first half of the century, available wood duck nesting sites were eliminated by human activities such as logging, and natural occurrences such as hurricanes. This caused a great decline in the wood duck population of Rhode Island. In 1951, the Division of Fish and Game (as it was known in the past) began its Wood Duck Nest Box Program. With funding from the Federal Aid to Wildlife Restoration Act, the division constructed and erected artificial nest boxes in order to compensate for the loss of suitable nesting sites. Throughout the years, the division continued to place more boxes in prime locations as they were identified.

The boxes were made of rough-cut native pine because of its quality that allows ducklings to gain traction to leave the nest. Wood shavings were added to the boxes to simulate an actual nest cavity. Most of the boxes were placed in shallow water with sufficient shrub or emergent cover to protect young wood ducks.

The key components to a successful wood duck box

1. Locate the box near good brood habitat.
2. Design box that can be easily maintained.
3. Maintenance annually to include replacing old nesting material with new wood shavings.